

IN THE CLAIMS:

The following is a complete listing of the claims, and replaces all earlier version and listings.

1. (currently amended): A peripheral device which can communicate with a plurality of client devices and with a proxy response server connected to a network, comprising:

notification means for notifying ~~a~~the proxy response server connectable to the network of a sleep mode transition request when the peripheral device changes from a normal data processing wait status to a sleep mode;

reception means for receiving a sleep release request from the proxy response server based on a network packet indicating a ~~peripheral device~~ discovery request for a peripheral device which ~~is changing~~ has transitioned to a ~~predetermined~~ sleep mode issued by any client device connected to the network after the proxy response server receives the sleep mode transition request from ~~the peripheral device~~ said notification means, wherein the network packet which is the ~~peripheral device~~ discovery request is a search request packet for a predetermined multicast address set as ~~a predetermined network~~ address for a plurality of peripheral devices; and

control means for releasing the sleep mode and returning to a normal data processing wait status when said reception means receives the sleep release request,

wherein the multicast address for a ~~peripheral device~~ discovery request for peripheral devices in a sleep status ~~can be~~ is different from a multicast address ~~of~~ for a ~~peripheral device~~ discovery request for peripheral devices in a normal status.

2. and 3. (canceled).

4. (currently amended): The peripheral device according to claim 1, wherein the search request network packet includes an instruction indicating a discovery request to a sleeping device.

5. (currently amended): A server device proxy for a peripheral device which can communicate with a plurality of client devices connected to a network, comprising:

registration means for receiving and registering a sleep mode transition request announced from a peripheral device in the network when the peripheral device changes from a normal data processing wait status to a sleep mode;

discovery means for retrieving information about a peripheral device in a sleep status depending on a network packet indicating a ~~specific peripheral~~ device discovery request for ~~discovery of~~ a sleeping peripheral device issued from any client device connected to the network after registration by said registration means, wherein the network packet which is the peripheral device discovery request is a search request packet for a predetermined multicast address set as a ~~predetermined network~~ address for a plurality of peripheral devices; and

notification means for notifying for release a sleeping peripheral device whose sleep release mode transition request has been registered for release of a sleep mode to a ~~peripheral device and whose information has been~~ retrieved by said discovery means,

wherein the multicast address for a ~~peripheral device~~ discovery request for peripheral devices in a sleep status ~~can be~~ is different from a multicast address for a of a ~~peripheral device~~ discovery request for peripheral devices in a normal status.

6. and 7. (canceled).

8. (currently amended): The server device according to claim 5, wherein the ~~search request network~~ packet includes an instruction indicating a discovery request to a sleeping device.

9. (currently amended): A client device which can communicate with a plurality of peripheral devices ~~or and a server devices device proxy~~ connected over a network, comprising:

issue means for issuing a network packet indicating a specific ~~peripheral device~~ discovery request for ~~discovery of a peripheral device~~ during transition which has transitioned to sleep status based on a response result from a network for a request to retrieve a peripheral device in a normal status, wherein the network packet ~~which is the peripheral device discovery request is a search request packet~~ for a predetermined multicast address set as a ~~predetermined network address~~ for a plurality of peripheral devices;

reception means for receiving a return response from any peripheral device notified of a sleep release request by said server device proxy after the ~~peripheral device~~ discovery request has issued by said issue means; and

data processing means for transmitting a predetermined data processing request to a specific peripheral device whose sleep mode has been released after said reception means has received the return response,

wherein the multicast address for a ~~peripheral device~~ discovery request for peripheral devices in a sleep status can be different from a multicast address ~~of for a peripheral device~~ discovery request for peripheral devices in a normal status.

10. and 11. (canceled).

12. (currently amended): The client device according to claim 9, wherein the ~~search request~~ network packet includes an instruction indicating a discovery request to a sleeping device.

13. (currently amended): A network device system in which a plurality of peripheral devices connected over a network can communicate with a plurality of client devices capable of recognizing a connection status of a peripheral device in a normal data processing wait status in the network,

wherein said peripheral device comprises:

notification means for notifying a proxy response server connectable to the network of a sleep mode transition request when the peripheral device changes from a normal data processing wait status to a sleep mode;

reception means receiving a sleep release request from the proxy response server based on a network packet indicating a ~~peripheral device~~ discovery request for a

peripheral device which is ~~changing~~ has transitioned to a predetermined sleep mode issued by any client device connected to the network after the proxy response server receives the sleep mode transition request from the ~~peripheral device~~ said notification means; and

control means for releasing the sleep mode and returning to a normal data processing wait status when said reception means receives the sleep release request,

and wherein said proxy response server comprises:

registration means for receiving and registering a sleep mode transition request announced from a peripheral device in the network when the peripheral device changes from a normal data processing wait status to a sleep mode;

discovery means for retrieving information about a peripheral device in a sleep status depending on a network packet indicating a specific ~~peripheral device~~ discovery request for ~~discovery of~~ a sleeping peripheral device issued from any client device connected to the network after registration by said registration means; and

notification means for notifying for release a sleeping peripheral device whose sleep release request has been registered ~~for release of a sleep mode to a peripheral device~~ and whose information has been retrieved by said discovery means,

and wherein said client device comprises:

issue means for issuing a network packet indicating a specific ~~peripheral device~~ discovery request for ~~discovery of~~ a peripheral device during transition which has transitioned to sleep status based on a response result from a network for a request to retrieve a peripheral device in a normal status;

reception means for receiving a return response from any peripheral device notified of a sleep release request by said server device proxy after the ~~peripheral device~~ discovery request has issued by said issue means; and

data processing means for transmitting a predetermined data processing request to a specific peripheral device whose sleep mode has been released after said reception means has received the return response,

wherein the network packet ~~which is the peripheral device discovery request is~~ a search request packet for a predetermined multicast address set as a ~~predetermined network address~~ for a plurality of peripheral devices, and

wherein the multicast address for a ~~peripheral device~~ discovery request for peripheral devices in a sleep status can be different from a multicast address ~~of for a peripheral device~~ discovery request for peripheral devices in a normal status.

14. and 15. (canceled).

16. (currently amended): The network device system according to claim 13, wherein the ~~search request network~~ packet includes an instruction indicating a discovery request to a sleeping device.

17. (currently amended): A device retrieving method for use with a peripheral device which can communicate with a plurality of client devices and with a proxy response server connected to a network, comprising:

a notifying step of notifying ~~a~~the proxy response server connectable to the network of a sleep mode transition request when the peripheral device changes from a normal data processing wait status to a sleep mode;

a receiving step of receiving a sleep release request from the proxy response server based on a network packet indicating a ~~restriction means~~discovery request for a peripheral device which is ~~changing~~has transitioned to a ~~predetermined~~ sleep mode issued by any client device connected to the network after the proxy response server receives the sleep mode transition request from ~~the peripheral device~~said notifying step, wherein the network packet ~~which is the peripheral device discovery request is a search request packet for a predetermined multicast address set as a predetermined network address for a plurality of peripheral devices; and~~

control step of releasing the sleep mode and returning to a normal data processing wait status when said receiving step receives the sleep release request,

wherein the multicast address for a ~~peripheral device~~ discovery request for peripheral devices in a sleep status can be different from a multicast address ~~of~~for a ~~peripheral device~~ discovery request for peripheral devices in a normal status.

18. (currently amended): A device retrieving method for use with a server device proxy for a peripheral device which can communicate with a plurality of client devices connected to a network, comprising:

a registration step of receiving and registering a network packet indicating a sleep mode transition request announced from a peripheral device in the network when the peripheral device changes from a normal data processing wait status to a sleep mode;

a retrieving step of retrieving information about a peripheral device in a sleep status depending on a network packet indicating a specific ~~peripheral device discovery~~ request for ~~discovery of a sleeping peripheral device~~ issued from any client device connected to the network after registration in said registering step, wherein the network packet ~~which is the peripheral device discovery request~~ is a search request packet for a predetermined multicast address set as a ~~predetermined network address~~ for a plurality of peripheral devices; and

a notifying step of notifying for release a sleeping peripheral device whose sleep release request has been registered ~~for release of a sleep mode to a peripheral device~~ and whose information has been retrieved in said retrieving step,

wherein the multicast address for a ~~peripheral device~~ discovery request for peripheral devices in a sleep status can be different from a multicast address ~~of for a peripheral device~~ discovery request for peripheral devices in a normal status.

19. (currently amended): A device retrieving method for use with client device which can communicate with a plurality of peripheral devices ~~or and a server devices~~ device proxy connected over a network, comprising:

a issuing step of issuing a network packet indicating a specific ~~peripheral device discovery request for discovery of a peripheral device~~ during transition which has transitioned to sleep status based on a response result from a network for a request to retrieve a peripheral device in a normal status, wherein the network packet ~~which is the peripheral device discovery request~~ is a search request packet for a predetermined multicast address set as a ~~predetermined network address~~ for a plurality of peripheral devices;



a receiving step of receiving a return response from any peripheral device notified of a sleep release request by said server device proxy after the ~~peripheral device~~ discovery request has issued in said issuing step; and

a data processing step of transmitting a predetermined data processing request to a specific peripheral device whose sleep mode has been released after said receiving step has received the return response,

wherein the multicast address for a ~~peripheral device~~ discovery request ~~for peripheral devices~~ in a sleep status can be different from a multicast address ~~of for a peripheral device~~ discovery request for peripheral devices in a normal status.

20. (currently amended): A device retrieving method for use with a network device system in which a plurality of peripheral devices connected over a network can communicate with a plurality of client devices capable of recognizing a connection status of a peripheral device in a normal data processing wait status in the network,

wherein, in the peripheral device, said method comprises:

a notifying step of notifying a proxy response server connectable to the network of a network packet indicating a sleep mode transition request when the peripheral device changes from a normal data processing wait status to a sleep mode;

a receiving step of receiving a sleep release request from the proxy response server based on a ~~peripheral device~~ discovery request for a peripheral device which is changing has transitioned to a ~~predetermined~~ sleep mode issued by any client device connected to the network after the proxy response server receives the sleep mode transition request from the ~~peripheral device~~ said notifying step; and

a control step of releasing the sleep mode and returning to a normal data processing wait status when the sleep release request is received in said receiving step,

and wherein, in the proxy response server, said method comprises:

a registering step of receiving and registering a sleep mode transition request announced from a peripheral device in the network when the peripheral device changes from a normal data processing wait status to a sleep mode;

a retrieving step of retrieving information about a peripheral device in a sleep status depending on a network packet indicating a specific ~~peripheral device~~-discovery request for discovery of a sleeping peripheral device issued from any client device connected to the network after registration in said registering step; and

a notifying step of notifying for release a sleeping peripheral device whose sleep release request has been registered ~~for release of a sleep mode to a peripheral device~~ and whose information has been retrieved in said retrieving step,

and wherein, in the client device, said method comprises:

an issuing step of issuing a network packet indicating a specific ~~peripheral device~~-discovery request for ~~discovery of~~ a peripheral device during transition-which has transitioned to sleep status based on a response result from a network for a request to retrieve a peripheral device in a normal status;

a receiving step of receiving a return response from any peripheral device notified of a sleep release request by the server device proxy after the ~~peripheral device~~ discovery request has issued in said issuing step; and

a data processing step of transmitting a predetermined data processing request to a specific peripheral device whose sleep mode has been released after the return response has been received in said receiving step,

wherein the network packet ~~which is the peripheral device discovery request is~~ a search request packet for a predetermined multicast address set as a predetermined network address for a plurality of peripheral devices, and

wherein the multicast address for a ~~peripheral device~~ discovery request ~~for peripheral devices~~ in a sleep status can be different from a multicast address ~~of for a peripheral device~~ discovery request for peripheral devices in a normal status.

21. (currently amended): The peripheral device according to claim 1, wherein said sleep mode is a mode in which power is not supplied to a status management unit of a printer controller from which a LAN controller ~~can receive~~ receives a status.